"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.P., inzh.-gidrogeolog

Problems in planning the drainage of dumps. Ugol' Ukr. 7 no.6: 31 Je '63. (MIRA 16:8)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, Anatoliy Porfir'yevich; AFONINA, G.P., red.; SHAFETA, S.M., tekhn. red.

[Precast concrete supports] Sbornaia silikatnaia krep'. Kiev, Gos. izd-vo tekhn. lit-ry USSR, 1961. 76 p. (MIRA 15:4)
(Mine timbering)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.P., ordinator

Case of death from agranulocytosis after prolonged use of an antasthman. Trudy Khar. med. inst. no.52:148-150 '59. (MIRA 14:11)

(AGRANULOCYTOSIS) (AMINOPYRINE)
(PHENOBARBITAL)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.P., inzh.; SUKHININ, V.I., kand.tekhn.nauk

Motor road-roller with frame and rollers made of reinforced concrete. Stroi. i dor. mash. 6 no.6:19-20 Je '61. (MIRA 14:7)

(Road rollers)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.S.

Only well-fed cattle. Nauka i perod. op. v sel'khoz. 7 no.5:8-10 My '57. (MIRA 10:6)

1. Starshiy inzhener upravleniya zagotovok skota Ministerstva promyshlennosti myasnykh i molochnykh produktov RSFSR.
(Cattle-Feeding and feeding stuffs)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, Alla Stepanovna

[Antibiotics from lichens] Antybiotychni rechovyny z lyshainykiv. Kyiv, Akademiia nauk Ukrainskoi RSR, 1958. 76 p. (MIRA 12:3)
(ANTIBIOTICS) (LICHENS)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. S.: Master Biol Sci (diss) -- "The preparation and study of an antibiotic from the lichen Cornicularia steppae Sav.". Kiev, 1959. 16 pp (Acad Sci Ukr SSR, Dept of Biol Sci), 150 copies (KL, No 12, 1959, 127)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

CHAADAYEV, N.A.; ISAYEV, V.N.; MONAKHOV, V.A.; BONDARENKO, A.S., kapitan 1 ranga zapasa, red.; MARCHENKO, V.G., red.; DANILOVA, Z.S., red.-leksikograf; BUKOVSKAYA, N.A., tekhn. red.

[Concise French-Russian dictionary of naval terms] Kratkii frantsuzsko-russkii voenno-morskoi slovar', Pod red. A.S. Bondarenko. Moskva, Voen. izd-vo M-va obor. SSSR, 1961. 344 p. (MIRA 15:2)

(French language--Dictionaries--Russian)
(Naval art and science--Dictionaries)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

FAVOROV, P.A.; BONDARENKO, A.S.; SHUTKIN, L.N.; RODIONOV, A.I., kontr-admiral, red.; MARCHENKO, V.G., red.; BERDNIKOVA, N.D., red.-leksikograf; KUZ'MIN, I.F., tekhn. red.

[English-Russian dictionary on submarines and anti-submarine defense]Anglo-russkii slovar' po podvodnym lodkam i protivolodochnoi oborone. Pod red. A.I.Rodionova. Moskva, Voenizdat, 1963. 260 p. (MIRA 16:3)
(Submarine warfare--Dictionaries)
(English language--Dictionaries--Russian)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. S.

Antimicrobial properties of an essential oil obtained from the nodding sticktight (Bidens cernuus [i.e., cernua] L.). Mikrobiol. zhur. 23 no.3:30-33 '61. (MIRA 15:7)

1. Institut mikrobiologii Akademii nauk USSR.

(BIDENS) (ESSENCES AND ESSENTIAL OILS)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. S.; ZELEPUKHA, S. I.

Antimicrobial properties of wild and garden strawberries.
Mikrobiol. zhur. 24 no.1:41-45 '62. (MIRA 15:7)

1. Institut mikrobiologii AN USSR.

(STRAWBERRIES)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

AYZENMAN, B.Ye. [Aizenman, B.IU]; MANDRIK, T.P. [Mandryk, T.P.]; SHVAYGER, M.O. [Shvaiher, M.O.]; BREDIKHINA, A.N. [Bredikhina, A.M.]; BONDARENKO, A.S.

Testing the antitumorigenic activity of extracts from higher plants in vitro. Mikrobiol. zhur. 25 no.4:46-52'63. (MIRA 16:9)

1. Institut mikrobiologii AN UkrSSR.
(MATERIA MEDICA, VEGETABLE) (CYTOTOXIC DRUGS)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.S.; ZELEPUKHA, S.I.; POCHINOK, P.Ya.; NEGRASH, A.K. [Nehrash, A.K.]; KUDRYAVTSEV, V.A.

Antimicrobial properties of Bidens cernua L. and Bidens tripartita L. Mikrobiol. zhur. 26 no.1:67-72 '64. (MIRA 18:11)

1. Institut mikrobiologii AN UkrSSR.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

PASYSHIN, I.I.; BONDARENKO, A.T.

Metallic osteosynthesis of the hip in district hospitals.
Zdrav.Turk. 2 no.5:33-35 S-O '58. (MIRA 12:6)

1. Iz khirurgicheskogo otdeleniya Bayram-Aliyskoy rayonnoy bol'nitsy (glavnyy varch - A.V.Markina).
(HIP JOINT--FRACTURES)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.T.

Efficacy of hypertension treatment at the Sochi-Matsesta Health Resort. Vop.kur., fizioter.i lech.fiz.kul't. 27 no.2:143-146 Mr-Ap '62. (MIRA 15:11)

1. Iz kardiologicheskoy kliniki (zav. - dotsent N.M.Shikhova) Sochinskogo instituta revmatizma (dir. - prof. M.M.Shikhov).
(HYPERTENSION) (SOCHI--THERAEUTICS, PHYSIOLOGICAL)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

S/049/60/000/02/017/022
E032/E414

AUTHORS: Parkhomenko, E.I. and Bondarenko, A.T.

TITLE: The Effect of One-Sided Pressure on the Electrical Resistance of Rocks

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya geofizicheskaya 1960, Nr 2, pp 326-332 (USSR)

ABSTRACT: At the present time there is only one paper available on the effect of pressure on the electrical resistance of rocks (Hughes - Ref 1). Hughes studied the electrical properties of peridotite for pressures of up to 10000 kg/cm^2 and at temperatures of 1063, 1143 and 1210°. Since this work was rather specialized, the present author has carried out more extensive studies of the electrical conductivity of rocks under the action of one-sided pressure. The electrical resistance was measured by the DC method described by Zaborovskiy (Ref 2) and Bogorodetskiy (Ref 3). The specimens were cut in the form of discs 0.5 to 2.0 cm in height and 2.8 to 7.0 cm in diameter. The electrical conductivity was measured in low fields (3 to 800 V) in which Ohm's law still holds. The various necessary electrodes were

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S/049/60/000/02/017/022
E032/E414

The Effect of One-Sided Pressure on the Electrical Resistance of Rocks

in the form of graphite deposits on the specimens and the contact between the specimens and the conducting wires was made with the aid of tin foil. In order to have uniform fields, the area of the measuring electrodes was 39 to 45% of the area of the high-voltage electrode. The guard ring which was also in the form of graphite emulsion was deposited on the cylindrical surface of the specimen. Under room conditions, the guard ring reduced the current by 10 to 25% in basalt and diobase specimens and by 50% in schist specimens. In dehydrated specimens having a resistance of the order of 10^{10} Ωcm or higher, the surface currents were very small and sometimes unmeasurable. Depending on the magnitude of the resistance to be measured, use was made of the galvanometer M91/A or a microammeter with a mirror scale. Measurements were taken on specimens of basalt, diobase, peridotite, limestone, schist and sandstone. The results obtained are summarized in the table on pp 329-330, which gives the specific resistance of the materials investigated for various water contents

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

S/049/60/000/02/017/022
E032/E414

The Effect of One-Sided Pressure on the Electrical Resistance of Rocks

and under one-sided pressure. It was established that both the behaviour of rocks in a constant electric field, and the changes in the resistivity, strongly depend on the moisture content. The greatest change in the resistance is observed not at maximum or minimum humidity but at a certain intermediate value. Such an increase in the electrical conductivity of rocks as a function of pressure is apparently due to the formation of continuous and conducting channels of liquid on compression of the specimen. It was found also that the most rapid increase in the electrical conductivity during one-sided compression is observed in the region of relatively small mechanical pressures of, say, 200 kg/cm^2, while the greatest change (5 to 100%) was observed in schist specimens having a moisture content of 28 to 32%. The figure captions are as follows: Figure 1 - Current (μA) through a basalt 21 specimen as a function of time: (1 - on application of a constant field; 2 - on application of the opposite field; 3 - on application of the original field).

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S/049/60/000/02/017/022
E032/E414

The Effect of One-Sided Pressure on the Electrical Resistance of Rocks

Figure 2 - Reduction in the current with time (min) for a basalt 21_2 specimen: (Curve 1 - dehydrated, Curve 2 - 0.23% moisture content, Curve 3 - 0.88% moisture content). Figure 3 - The current through a sandstone 1415_1 specimen as a function of time. Figure 4 - Current through a sandstone 1409_2 specimen as a function of time (min) for direct and reversed fields. Figure 5 - Dependence of the specific resistance of basalt specimens on the moisture content (in %): (1 - basalt 4_1; 2 - basalt 2; 3 - basalt 21_2; 4 - basalt 21_1). Figure 6 - Specific resistance of basalt 21_1 as a function of pressure (kg/cm^2; one-sided). Figure 7 - Specific resistance of sandstone 1409_1 as a function of pressure. Figure 8 - Specific resistance of basalt 4_1 as a function of pressure. There are 8 figures and 11 references, 10 of which are Soviet and 1 English.

Card 4/5

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

S/049/60/000/02/017/022
E032/E414

The Effect of One-Sided Pressure on the Electrical Resistance of Rocks

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli
(Academy of Sciences USSR, Institute of Physics of the Earth)

SUBMITTED: July 18, 1959

Card 5/5

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

VOLAROVICH, M.P.; BONDARENKO, A.T.

Studying electric resistance in rock specimens subjected to a surrounding pressure up to 1000 kg/cm^2. Izv.AN SSSR. Ser.geofiz. no.7:946-953 Jl '60. (MIRA 13:7)

1. Akademiya nauk SSSR Institut fiziki Zemli.
(Rocks--Electric properties)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

VOLAROVICH, M.P.; TARASOV, O.A.; BONDARENKO, A.T.

Investigating the dielectric permeability of rock samples at unilateral and isostatic (up to 5000 kg/cm^2) atmospheric pressures. Izv. AN. SSSR. Ser. geofiz. no.7:1004-1008 Jl '61. (MIRA 14:6)

1. Akademiya nauk SSSR, Institut fiziki Zemli.
(Rocks—Electric properties)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.T.

Investigations of the temperature dependence of the dielectric constant and the tangent angle of dielectric losses of rocks on different frequencies. Izv. AN SSSR. Ser. geofiz. no.3:455-463 Mr '63. (MIRA 16:3)

1. Institut fiziki Zemli AN SSSR.
(Dielectrics)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

VOLAROVICH, M.P.; BONDARENKO, A.T.; GUSEV, K.F.

X-ray investigations of rock samples at high pressures and temperatures. Trudy Inst. fiz. Zem. no.23:55-59 '62. (MIRA 16:11)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

VOLAROVICH, M.P.; BONDARENKO, A.T.; PARKHOMENKO, E.I.

Effect of pressure on the electric properties of rocks. Trudy Inst. fiz. Zem. no.23:80-90 '62. (MIRA 16:11)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

PARKHOMENKO, E.I.; BONDARENKO, A.T.

Electric conductivity of rocks at high temperatures and one-sided pressure. Trudy Inst. fiz. Zem. no.23:101-106 '62.
(MIRA 16:11)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

PARKHOMENKO, E.I.; BONDARENKO, A.T.

Electric resistance of rocks at pressures up to 40,000 kg./cm.^{2} and temperatures up to 400°. Izv. AN SSSR. Ser. geofiz. no.12: 1823-1832 D '63. (MIRA 17:1)

1. Institut fiziki Zemli AN SSSR.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

ACCESSION NR: AP4038149 S/0049/64/000/005/0739/0741

AUTHOR: Bondarenko, A. T.

TITLE: Investigation of the dielectric constant of rocks at pressures up to 50 000 kilograms per square centimeter and at temperatures up to 400

SOURCE: AN SSSR. Izv. Seriya geofizicheskaya, no. 5, 1964, 739-741

TOPIC TAGS: dielectric constant, capacitance, rock, pressure dependence, temperature dependence, capacitance meter NIE 1

ABSTRACT: The dielectric constant was measured by means of an NIE-1 capacitance meter, operating at a frequency of 5 kilocycles. The sensitivity of the instrument is reputed to be ±(2-5)%. Samples tested included basalt, porphyrite, serpentinized dunite, amphibolite, and serpentine. On a test with dunite, the dielectric constant was found to vary at different rates on successive loading of the same sample. The change was greatest on the first test. Increase in dielectric constant with loading was generally 20 to 25% at pressures of 50 000 kg/cm^2. When both pressure and temperature were increased, the capacitance increased more rapidly at lower temperatures (20-100°) than at high temperatures (200-400°). When the dielectric constant was measured with change in temperature alone, it was found to increase at first,

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ACCESSION NR: AP4038149

reach a maximum (generally at about 100°) then decrease to a minimum, somewhere below 400°, and begin to increase again. The curve differed for different pressures, being most sharply expressed at high pressures, approaching a sine wave in appearance. The author concludes that the increase in dielectric constant with pressure in rocks and, in general, substances with ionic structure is due to changes in energy of interaction between ions in the crystal lattice. Orig. art. has: 4 figures.

ASSOCIATION: Akademiya nauk SSSR Institut fiziki Zemli (Academy of Sciences, SSSR, Institute of Physics of the Earth)

SUBMITTED: 20Jun63 DATE ACQ: 12Jun64 ENCL: 00

SUB CODE: ES, SS NO REF SOV: 005 OTHER: 001

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.T.

Temperature dependence of the dielectric properties of rocks of the Kola Peninsula. Izv. AN SSSR Fiz. zem. no.5:103-107 '65.
(MIRA 18:6)

1. Institut Fiziki Zemli AN SSSR.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

S/058/61/000/003/009/027
A001/A001

Translation from: Referativnyy zhurnal, Fizika, 1961, No. 3, p. 299, # 3E165

AUTHORS: Bondarenko, A. V., Nikitenko, V. I.

TITLE: Electric Conductivity of Synthetic Ceresin in the Melting Temperature Range

PERIODICAL: "Tr. Novocherkassk. politekhn. in-ta", 1959, Vol. 73, "Raboty Kafedry fiz.", pp. 43-46

TEXT: Specific resistivity ρ_v of synthetic ceresin grows with temperature. The different course of dependence of ρ_v on temperature at 40-57 and 57-110°C is explained by the fact that higher-molecular components participate in the mechanism of electric conductivity; moreover, this is also the result of the effect of low-molecular (paraffin) fractions contained in synthetic ceresin. This is confirmed by changes in mechanical and optical properties of synthetic ceresin at the 57°C temperature. The deviation of the temperature-dependence of ρ_v at heating from the analogous curve at cooling is explained by the orientation of the structural elements of synthetic ceresin during cooling in the presence of an electrical field.

V. Kuchin

Translator's note: This is the full translation of the original Russian abstract.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

DERFEL', A.G.; KRAVTSOVA, I.P.; DYUBIN, N.P.; SVIRIDENKO, F.F.; POPOVA, A.N.; DOLINENKO, O.V.; SHAROV, B.A.; Prinimali uchastiye: DYUBINA, A.V.; TARASOVA, L.P.; LESENKO, I.I.; LEVCHENKO, N.D.; BONDARENKO, A.V.

Using ferrotitanium for the deoxidation of rail steel and its properties. Sbor. trud. UNIIM no.11:365-378 '65. (MIRA 18:11)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. V. Cand Tech Sci -- (diss) "Study of the synthesis of vinyltoluene." Yaroslavl', 1956. 10 pp (Min of Higher Education USSR. Yaroslavl' Technological Inst.), 100 copies (KL, 3-58, 97)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

80623
SOV/81-59-5-16377

5.3200

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 5, p 376 (USSR)

AUTHORS: Bondarenko, A.V., Bogdanov, M.N., Farberov, M.I.

TITLE: The Industrial Synthesis of Vinyl Toluene

PERIODICAL: Uch. zap. Yaroslavsk. tekhnol. in-ta, 1957, Vol 2, pp 33 - 46

ABSTRACT: The process of catalytic dehydrogenation of ethyl toluene (I) to vinyl toluene (II) was investigated at 540 to 600°C with a volumetric rate of 200 - 800 ml per 1 liter of the catalyst per hour and with dilution by H_2O vapors in the molar ratio of 1:8 - 1:16. With an increase in the temperature to $> 580°C$ and a drop in the volumetric rate to < 400, the yield of II is reduced considerably. The optimum conditions of the dehydrogenation process are: temperature 560 - 580°C, volumetric rate 400 - 800 ml per 1 liter of catalyst per hour, dilution with H_2O vapors 1:12 - 1:16. The standard catalyst for dehydrogenation K-12 was used as catalyst. A thermodynamic calculation of the dehydrogenation reaction was made. The equilibrium constants and the equilibrium composition were computed at 427 - 727°C, and also

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The Industrial Synthesis of Vinyl Toluene SOV/81-59-5-16377

the apparent energy of activation of the dehydrogenation reaction, being 32,700 cal on the average. It is shown that, in addition to I and II, toluene, xylene, ethyl benzene and styrene are part of the catalysate composition. A circuit diagram of the contact installation is submitted.

L. Volkova

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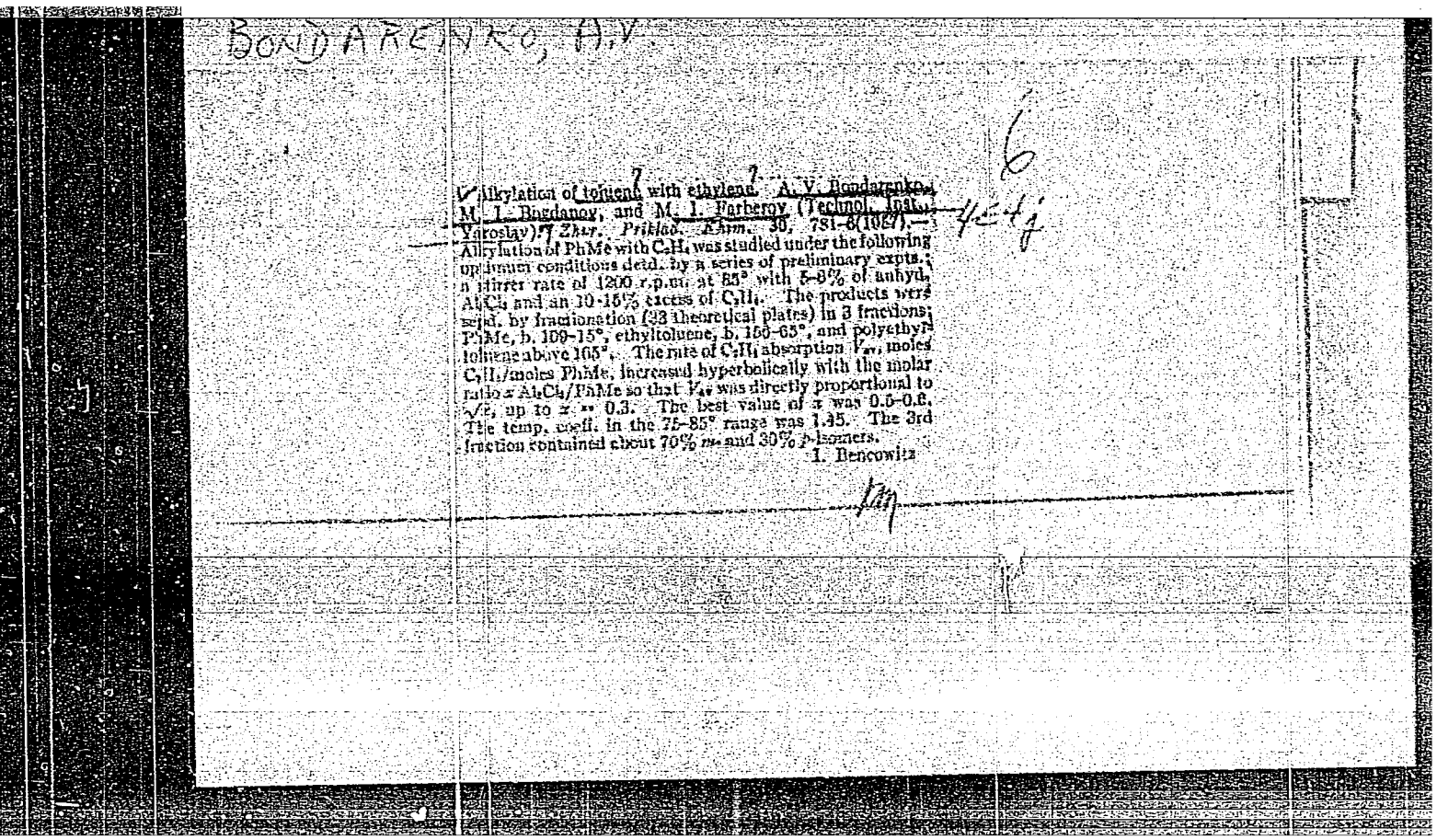

BONDARENKO, A.V.

Alkylation of toluene with ethylene. A. V. Bondarenko, M. I. Bogdanov, and M. I. Farberov. (Technol. Inst., Yaroslav.) *Zhur. Prikład. Khim.* 30, 781-8(1957).—Alkylation of PhMe with C_2H_4 was studied under the following optimum conditions detd. by a series of preliminary expts.: a stirrer rate of 1200 r.p.m. at 85° with 5-8% of anhyd. $AlCl_3$ and an 10-15% excess of C_2H_4. The products were sepd. by fractionation (33 theoretical plates) in 3 fractions; PhMe, b. 109-15°, ethyltoluene, b. 150-65°, and polyethyltoluene above 165°. The rate of C_2H_4 absorption V_{ab}, moles C_2H_4/moles PhMe, increased hyperbolically with the molar ratio x $AlCl_3$/PhMe so that V_{ab} was directly proportional to $\sqrt{x}$, up to x = 0.3. The best value of x was 0.5-0.6. The temp. coeff. in the 75-85° range was 1.45. The 3rd fraction contained about 70% *m*- and 30% *p*-isomers.

I. Bencowitz

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BONDARENKO, A.V.

Dehydrogenation of ethyltoluene to vinyltoluene. A. V. Bondarenko, M. I. Bogdanov, and M. I. Farberov (Technol. Inst., Yaroslavl). *Zhur. Priklad. Khim.* 30, 927–32 (1957); cf. *C.A.* 51, 17782b.—When MeC_6H_4Et (I) dild. with steam was passed over ZnO at 540–600°, the yield of vinyltoluene (II) decreased with the temp. and increased with the rate of passage of I and the diln. The optimum conditions were a rate of 400–800 ml. I/l. catalyst/hr. at 500–20° with a [illegible] diln. giving a yield of II up to 89.6% based on reacted I (35.3% based on I passed over the catalyst). Under the optimum exptl. conditions mixts. of I with 40.5% II were stable without the catalyst; only 2% decompd. In the presence of ZnO, 8.4% decompd. and with richer mixts., contg. 78% II, 25% decompd. The apparent energy of activation, calcd. by Arrhenius' equation, is 32,700 cal./mol. I. Bencowitz

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S/081/61/000/011/016/040
B105/B203

15 8050

AUTHORS: Bondarenko, A. V., Karakuleva, G. I., Kut'in, A. M., Farberov, M. I.

TITLE: Synthesis of vinyl xylenes on the basis of xylenes and ethylene

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 11, 1961, 190, abstract 11Ж91 (Uch. zap. Yaroslavsk. tekhnolog. in-ta, 1960. 5. 79-89)

TEXT: In the alkylation of m-xylene (I) by means of ethylene (molar ratio 2 : 1), the minimum yield (~1% by weight of the resulting alkylate) in products of disproportionation (PD) with the boiling point 145-180°C [$CH_3C_6H_4C_2H_5$, $(CH_3)_3C_6H_3$] was obtained at 80-85°C and with 2% $AlCl_3$, while the yield in ethyl xylene (II) was ~30%, or 95-97% of the reacted (I), respectively. The polyproducts are smoothly dealkylated to (II) under the conditions of the main reaction. The effect of temperature and $AlCl_3$ concentration on the PD yield was studied. Vinyl xylene (yield 20-25%

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Synthesis of vinyl xylenes on the ...

referred to the passed-through, or 70-75% to the decomposed (II)) is obtained by dehydrogenation of (II) on the catalyst K-10 (K-10) (87.6% ZnO, 10.95% Cr_2O_3, 0.56% SiO_2, 0.45% Al_2O_3, 0.44% K_2O) at 600°C, and dilution by water vapor in a molar ratio of 1 : 12 during a contact time of 0.35-0.4 sec. The effect of temperature, contact time, and character of the catalyst on the dehydrogenation process of (II) was studied. [Abstracter's note: Complete translation.]

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S/058/62/000/002/020/053
A058/A101

AUTHORS: Bondarenko, A. V., Popov, S. Ya.

TITLE: Cathode polarization incident to electrocrystallization of metals under the action of sonic and ultrasonic vibrations

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1962, 43, abstract 2G330 (V sb. "Primeneniye ul'traakust. k issled. veshchestva", no. 14, Moscow, 1961, 87-94)

TEXT: Incident to the electrocrystallization of metals ultrasonic and sonic vibrations decrease the magnitude of overvoltage in that region of current densities where there occurs concentration polarization. The lower the concentration of rarefying ions, the greater the reduction of polarization. The rate and magnitude of cathode passivation is appreciably greater in the presence of a field of acoustic vibrations than in the absence of such a field. Galvanic platings produced under the action of ultrasonic or sonic vibrations may have either a finer or a coarser crystal structure than in the case of electrocrystallization without vibrations. The throwing power of the electrolyte in the presence of vibrations may be either better or worse than in their absence. A satisfactory

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Cathode polarization incident ...

explanation of the action of acoustic vibrations on the crystal structure of deposits and on the throwing power of electrolytes can be given from the viewpoint of the action of vibrations on the cathode-passivation effect incident to the electrocrystallization of metals. In using sonic and ultrasonic vibrations for the intensification of the electrocrystallization of metals, the prospects are good for electrolytes with which one can use both the depolarizing and the passifying actions of vibrations. There are 12 references.

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

S/058/62/000/002/018/053
A058/A101

AUTHORS: Bondarenko, A. V., Popov, S. Ya.

TITLE: Currentless electrode potential under the action of ultrasonic and sonic vibrations

PERIODICAL: Referativnyy zhurnal, Fizika no. 2, 1962, 42, abstract 2G313 (V sb. "Primeneniye ul'traakust. k issled. veshchestva", no. 14, Moscow, 1961, 95-99)

TEXT: It was found that ultrasonic and sonic vibrations exert an effect on currentless nonequilibrium electrode potential. In the electronegative metals Zn and Pb, the potential under the action of vibrations is shifted to the side of positive values while in the electropositive metal copper, the potential is shifted to the side of negative values. This shift in potential can be explained from the standpoint of the depolarizing action of ultrasonic and sonic waves on the cathode and anode polarization of micropairs. In designing the thickness of galvanic platings for components operating under conditions of vibration, it is necessary to take into account the possibility of increase of corrosion current under the action of vibrations.
[Abstracter's note: Complete translation]
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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; KISELEV, V.F.; DRASIL'NIKOV, K.G.

Composition of products of the thermal dehydration of silica and properties of its dehydrated surface. Kin.i kat. 2 no.4:590-598 Jl-Ag '61. (MIRA 14:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova, fizicheskiy fakul'tet.
(Silica) (Dehydration (Chemistry))

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; KUT'I..., A...; USTAVSHCHIKOVA, Z.F.; FARBEROV, M.I.

Synthesis of tert-butylbenzoic acid. Izv.vys.ucheb.zav.; khim.i khim.tekh. 4 no.3:482-485 '61. (MIRA 14:10)

1. Yaroslavskiy tekhnologicheskiy institut i nauchno-issledovatel'skiy institut sinteza monomerov dlya sinteticheskogo kauchuka, kafedra tekhnologii osnovnogo organicheskogo sinteza i sinteticheskogo kauchuka.
(Benzoic ...)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; KISELEV, V.F.; KRASIL'NIKOV, K.G.

Thermal dehydration of silica and certain properties of its surface. Dokl.AN SSSR 136 no.5:1133-1136 F '61. (MIRA 14:5)

1. Moskovskiy gos.universitet im. M.V.Lomonosova. Predstavleno akad. M.M.Dubininym.

(Silica) (Dehydration) (Surface chemistry)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

S/204/62/002/004/014/019
E075/E435

AUTHORS: Bondarenko, A.V., Dolinkina, V.P., Kut'in, A.I.
Farberov, M.I.

TITLE: Synthesis of vinylxylene from xylene and acetaldehyde

PERIODICAL: Neftekhimiya, v.2, no.4, 1962, 585-591

TEXT: The synthesis was carried out in two stages: stage 1 - condensation of xylene and acetaldehyde to produce dixylylethane, stage 2 - catalytic cracking of dixylylethane with the formation of vinylxylene and ethylxylene. The first reaction was conducted with 92 to 96% H_2SO_4 as catalyst, the molar ratio of the acid to acetaldehyde and xylene being 1:0.25:1. Technical xylene as well as individual isomers could be used in this reaction. An increase of the molar ratio of acetaldehyde to xylene above 0.25:1 lowered the yield of dixylylethane. The reaction temperature had no effect on the yield between -14 to +10°C, however, at 20°C the yield decreased markedly. Under the optimum conditions the yield reached about 36% of the xylene taken and 82% of the reacted xylene. The second reaction was conducted in the presence of a clay (kaolin) activated by heating in air at 550 to 570°C. The yield of vinylxylene increased with

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temperature up to 600°C and reaction time (the time of contact up to 0.2 sec). The yield of ethylxylene increased at the same time. Dilution of dixylylethane with steam, or working under a vacuum, increased the yield of vinylxylene and improved its quality. The optimum condition for the reaction are: temperature - 500°C, contact time - 0.05 sec, dilution with water vapour 1:28 (moles), final partial pressure in the system - 110 mm Hg. The yield under these conditions is about 62% of the feed. Vinylxylene obtained consists exclusively of 2,4-dimethylstyrene. There are 3 figures and 5 tables.

ASSOCIATIONS: Nauchno-issledovatel'skiy institut monomerov dlya SK (Scientific Research Institute of Monomers for Synthetic Rubber) Yaroslavskiy tekhnologicheskiy institut (Yaroslavl' Technological Institute)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

TIKHVINSKAYA, M.Yu.; BONDARENKO, A.V.; FARBEROV, M.I.; SOLNTSEVA, L.V.

Reaction of liquid phase catalytic oxidation of tertiary butyltoluene. Zhur.prikl.khim. 35 no.7:1584-1591 Jl '62. (MIRA 15:8)

1. Yaroslavskiy tekhnologicheskiy institut i Nauchno-issledovatel'skiy institut sintesa monomerov dlya sinteticheskogo kauchuka.
(Toluene) (Oxidation)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. V.; DOLINKINA, V. P.; KUT'IN, A. I.; FARBEROV, M. I.

Synthesis of vinylxylene based on xylene and acetaldehyde. Neftekhimia 2 no.4:585-591 Jl-Ag '62. (MIRA 15:10)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka i Yaroslavskiy tekhnologicheskiy institut.

(Styrene) (Xylene) (Acetaldehyde)

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L 15481-63 EPR/EWP(j)/EPF(c)/EWT(m)/BDS AFFTC/ASD Ps-4/Pc-4/
Pi-4 RM/WW

ACCESSION NR: AP3005451 S/0204/63/003/004/0548/0557 74 73

AUTHORS: Bondarenko, A. V.; Farberov, M. I.; Tikhvinskaya, M. Yu.; Kalinina, I. A.

TITLE: Liquid phase catalytic oxidation of di-tert.butylbenzoic acid

SOURCE: Neftekhimiya, v. 3, no. 4, 1963, 548-557

TOPIC TAGS: liquid phase catalytic oxidation, butylbenzoic acid, toluene alkylation, synthetic rubber, rosin, isobutylene, aluminum chloride, cobaltous oleate

ABSTRACT: The main product of oxidation of di-tert.butyltoluene is di-tert.butylbenzoic acid. It was previously shown that the alkaline salts of this acid can completely replace the disproportionation rosin which is used as an emulsifier in the production of synthetic rubber. Di-tertiarybutylbenzoic acid has a branching structure with two tert.butyl groups which combine well with the rubber. Di-tert.-butylbenzoic acid was prepared in three stages: (a) alkylation of

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L 15481-63

ACCESSION NR: AP3005451

toluene with isobutylene in the presence of 90-97% H_2SO_4 at atmospheric pressure and 0 to 40C; (b) disproportionation of tert.butyltoluene into di-tert.butyltoluene in the presence of aluminum chloride at a pressure of 10 to 15 mm Hg and 80 to 110C; (c) oxidation of di-tert.butyltoluene with O_2 from the air in the presence of cobaltous oleate catalyst. Authors attempted to evaluate the conditions of liquid-phase catalytic oxidation of di-tert.butyltoluene, the character of the intermediate products and by-products, as well as the kinetics of the reaction. The effect of the above factors were studied in the presence of cobaltous oleate and other catalysts. About 80 mole % of di-tert.butylbenzoic acid and 5 mole % of di-tert.butylbenzoic aldehyde is obtained, based on the reacted di-tert.butyltoluene. Some other products of the reaction were separated and identified. The tar-like product from the reaction effects the inhibition of the reaction. A scheme for the formation of main, intermediate and side products is proposed and an explanation of the inhibiting effect is given. Orig. art. has: 1 table, 4 figures, 3 formulas, and a scheme for a possible conversion during the oxidation reaction mechanism.

ASSOCIATION: Yaroslav engineering isnt.

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BONDARENKO, A.V.; POPOV, S.Ya.

Effect of acoustic vibrations on the passivation of a cathode surface during electrocrystallization of zinc. Trudy NPI 133:53-58 '62. (MIRA 17:2)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.

Mechanism of ultrasonic action on the process of electrocrystallization of metals. Trudy NPI 133:59-77 '62. (MIRA 17:2)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

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S/3087/62/001/000/0091/0099

ACCESSION NR: AT4029923

AUTHOR: Bondarenko, A. V.; Farberov, M. I.; Karakuleva, G. I.; Komolova, G. A.; Tikhvinskaya, M. Yu.

TITLE: Synthesis of di-tert-butylbenzoic acid

SOURCE: Yaroslavl'. Tekhnologicheskiy institut. Khimiya i khimicheskaya tekhnologiya, vol. 1 (8), 1962, 91-99

TOPIC TAGS: benzoic acid, isobutylene, toluene, polymerization, emulsifier, surface active substance, alkali metal

ABSTRACT: Di-tert-butylbenzoic acid is a product which previously has not been produced and has not been used on industrial scales. Only short references have been made to the possibility of its synthesis. The authors suggest that the manufacture of di-tert-butylbenzoic acid is feasible from inexpensive raw material; toluene and isobutylene. This was done in three stages. It was shown that a convenient method of obtaining di-tert-butyltoluene is the disproportioning of tert-butyltoluene in the presence of aluminum chloride in the continuous extraction of toluene (in order to shift the equilibrium of the reaction). Such a method assures a yield of the object product on the order of 90% for the converted tert-butyltoluene from the theoretic. By means of the liquid phase of oxidation di-tert-butyltoluene

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ACCESSION NR: AT4029923

in the presence of a catalyst it was possible to obtain a high-yield of di-tert-butylbenzoic acid. Di-tert-butyltoluene and di-tert-benzoic acid were separated and characterized. The salts of alkali metals of di-tert-benzoic acid were good emulsifiers in the processes of emulsion polymerization. Orig. art. has: 2 figures and 5 tables.

ASSOCIATION: Yaroslavskiy tekhnologicheskiy institut i nauchno-issledovatel'skiy institut monomerov dlya SK (NIIMSK) (Yaroslavl technological institute and scientific research institute of monomers for SK (NIIMSK))

SUBMITTED: 00 DATE ACQ: 29Apr64 ENCL: 00

SUB CODE: CH NO REF SOV: 003 OTHER: 002

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; DOLINKINA, V.I.; KUT'IN, A.M.; FARBEROV, M.I.

Synthesis of vinylxylol based on xylene and acetaldehyde.
Khim. i khim. tekh. 1:101-107 '62. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka i Yaroslavskiy tekhnologicheskiy institut.

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TSAYLINGOL'D, A.L.; TYURYAYEV, I.Ya.; BONDARENKO, A.V.; CHEREMUKHINA, T.A.

Catalytic hydrocracking of dixylmethane. Khim. i khim. tekh. 1:111-121 '62. (MIRA 17:2)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka i Yaroslavskiy tekhnologicheskiy institut.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; POPOV, S.Ya.

Electrocrystallization of copper on a vibrating cathode. Trudy NPI 134: 45-57 '62. (MIRA 17:2)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; FARBEROV, M.I.; TIKHVINSKAYA, M.Yu.; KALININA, I.A.

Liquid-phase catalytic oxidation of di-tert-butyltoluene for the purpose of obtaining di-tert-butylbenzoic acid. Neftekhimiia 3 no.4:548-557 Jl-Ag '63. (MIRA 16:11)

1. Yaroslavskiy tekhnologicheskiy institut.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.

Electrocrystallization of zinc in a stationary ultrasonic field. Elektrokhimiia 1 no.3:367-369 Mr '65.
(MIRA 18:12)

1. Novocherkasskiy politekhnicheskiy institut.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

KARAKULEVA, G.I.; BONDARENKO, A.V.; FARBEROV, M.I.; SMIRNOVA, Z.V.

Production of alkylnaphthalenes. Neftekhimiia 5 no.6:856-862 N-D '65. (MIRA 19:2)

1. Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka i Yaroslavskiy tekhnologicheskiy institut. Submitted Jan. 26, 1965.

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BASHIROVA, R.M.; BONDARENKO, A.V.

Energy spectrum of positive ions hitting the cathode in an anomalous glowing discharge. Izv. vys. ucheb. zav.; radiofiz. 8 no.4:784-793 '65. (MIRA 18:9)

1. Moskovskiy gosudarstvennyy universitet.

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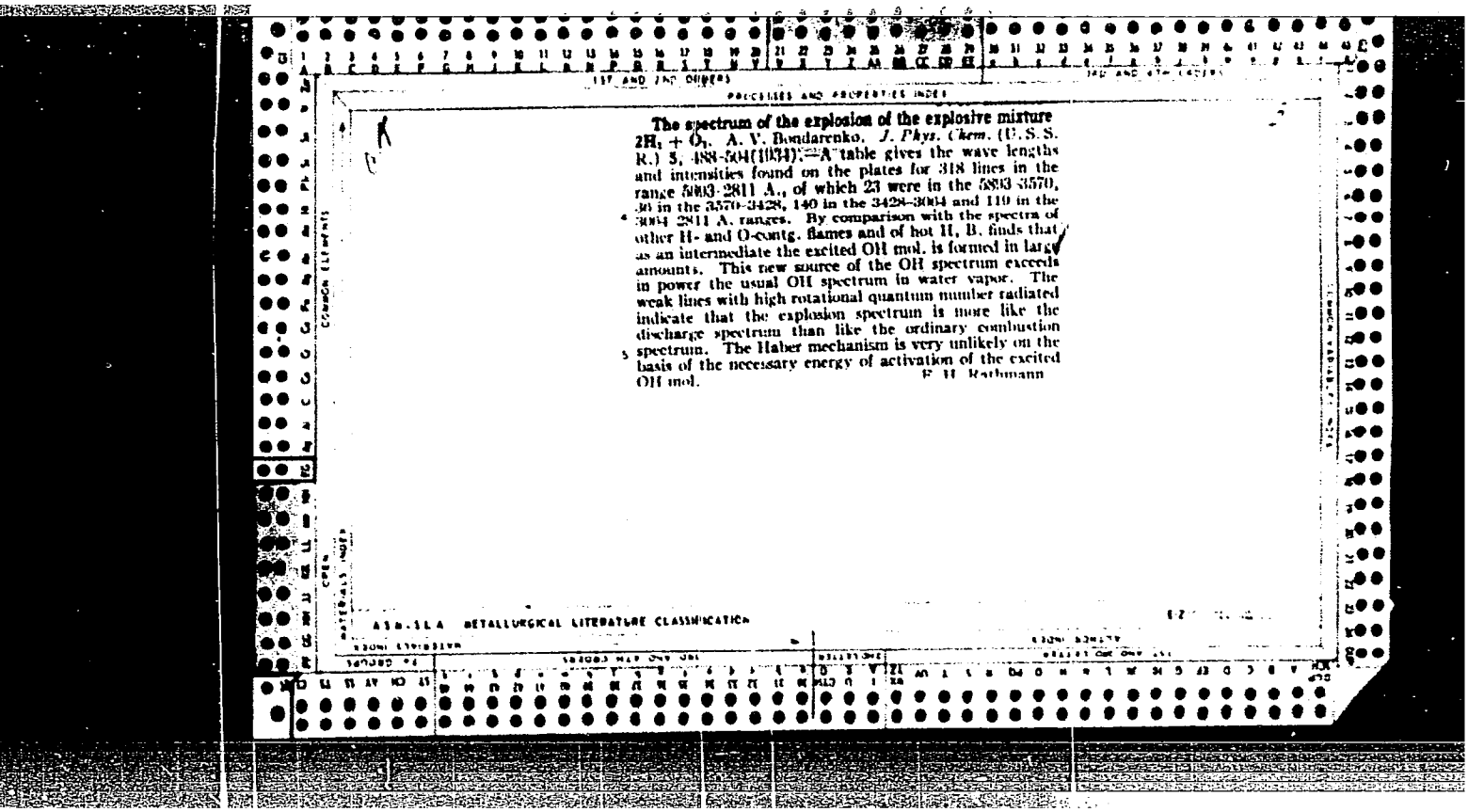

The spectrum of the explosion of the explosive mixture $2H_2 + O_2$. A. V. Bondarenko. *J. Phys. Chem.* (U. S. S. R.) 5, 488-504(1934).—A table gives the wave lengths and intensities found on the plates for 318 lines in the range 5893-2811 A., of which 23 were in the 5893-3570, 30 in the 3570-3428, 140 in the 3428-3004 and 110 in the 3004-2811 A. ranges. By comparison with the spectra of other H- and O-contg. flames and of hot H, B. finds that as an intermediate the excited OH mol. is formed in large amounts. This new source of the OH spectrum exceeds in power the usual OH spectrum in water vapor. The weak lines with high rotational quantum number radiated indicate that the explosion spectrum is more like the discharge spectrum than like the ordinary combustion spectrum. The Haber mechanism is very unlikely on the basis of the necessary energy of activation of the excited OH mol.

F. H. Rathmann

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NEKRASOV, N. I. : BONDARENKO, A. V.: AND MAL'TSEVA, P. M.

" The Decomposition of Nitrides of Iron with Bombardment by Slow Electrons", Zhur Fiz. Khim., 12, No. 1, 1939, Moscow State University, MIIF, Laboratory of Thermophysics. Rcd. 22 June 1938.

Report U-1613, 3 Jan. 1952

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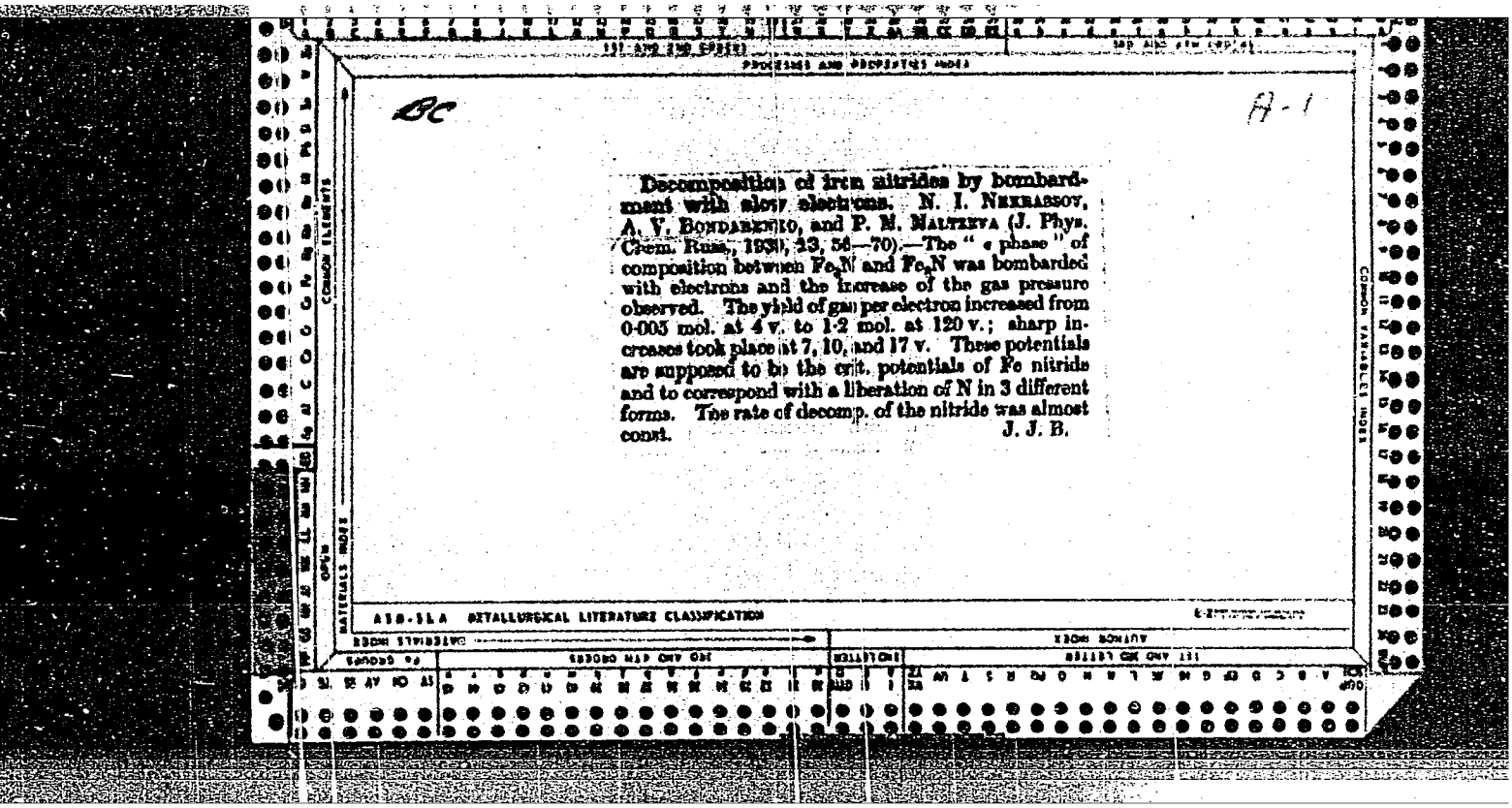

Decomposition of iron nitrides by bombardment with slow electrons. N. I. NEKRASSOV, A. V. BONDARENKO, and P. M. MALTSEVA (J. Phys. Chem. Russ., 1938, 12, 56—70).—The " ϵ phase " of composition between Fe_2N and Fe_4N was bombarded with electrons and the increase of the gas pressure observed. The yield of gas per electron increased from 0·005 mol. at 4 v. to 1·2 mol. at 120 v.; sharp increases took place at 7, 10, and 17 v. These potentials are supposed to be the crit. potentials of Fe nitride and to correspond with a liberation of N in 3 different forms. The rate of decomp. of the nitride was almost const. J. J. B.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. V.

Defended his Candidates dissertation in the Physics Faculty of Moscow State University on 3 July 1952.

Dissertation: "Investigation of the Limit Phenomeno of Forced Combustion of Gaseous Mixtures Containing Inert Diluents."

SO: Vestnik Moskovskogo Universiteta, Seriya Fiziko-Matematicheskikh i Yestestvennykh Nauk, No. 1, Moscow, Feb 1953, pp 151-157: transl. in W-29782, 12 April 54, For off. use only.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

SOV/137-59-12-26380

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 12, p 89 (USSR)

AUTHORS: Bondarenko, A.V., Popov, S.Ya.

TITLE: The Effect of Ultrasonic Waves on Electrocrystallization of Metals

PERIODICAL: Byul. tekhn.-ekon. inform. Sovnarkhoz Rostovsk. ekon-adm. r-na, 1959, Nr 1, pp 47 - 49

ABSTRACT: Besides the testing of equipment and the development of experimental methods, the basic problem of the investigation was to reveal the possible effect of ultrasonic waves on the formation of crystallization centers, on the contact exchange, and increase in the current density. The authors investigated the deposition of Cu on the Cu-cathode, of Pb on the Pb-cathode, of Ag on Cu and deposition of Zn. It was stated that the ultrasonic waves increased the current density in deposition from non-cyanide electrolytes; that a primary thin metal layer, well adhesive to the base, was formed which subsequently was extending beyond the ultrasonic field.

T.K.

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

5(4) SOV/20-125-3-30/63

AUTHOR: Bondarenko, A. V.

TITLE: An Investigation of the Thermal Dehydration of Crystalline and Amorphous Silica by the Method of Mass-spectrum Analysis (Issledovaniye termicheskoy degidratatsii kristallicheskogo i amorfnogo kremnezemov metodom mass-spektral'nogo analiza)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 3, pp 573-576 (USSR)

ABSTRACT: In this investigation the author used two samples of pulverized crystalline quartz (which had been prepared at various times and had a specific surface of 35.8 and 8 m^2/g) as well as three varieties of silica gel (K-2, KSK-2, KSK-3). In these experiments it was necessary to subject the silica samples to a particularly careful purification. All experiments were made within the temperature range of from 400 to 1000°. The mass spectrum within the range of from 1 to 50 units of mass was taken at a temperature of between 100 to 150°. Negative results were obtained from the investigation of the dehydration of silica gel K-2 in an ion source with a hot anode in which the author tried

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An Investigation of the Thermal Dehydration of Crystalline and Amorphous Silica by the Method of Mass-spectrum Analysis

to determine charged particles. The mass-spectrographic analysis performed permits the conclusion that the silica gel surface exhibits no independent emission of ions during thermal dehydrogenation, at least not within the limits of sensibility of the device MS-4. It resulted that the mass spectrum of the neutral components of the desorbed gas phase was comparatively complicated in all samples of silica gel under investigation. In addition to H_2O (apart from the mass lines of the fragments, for example OH), the lines CO_2, N_2, and CO, in most cases O_2, and sometimes H_2, NO as well as other nitrogen oxides and the lines of various organic compounds were found in the mass spectra. The lines caused by SiO_2-, SiO-, O_2-, and O are due to the sublimation of the solid phase of silica gel. The absolute and the relative content of the substances contained in the mass spectrum of dehydration varied considerably from sample to sample and were dependent on temperature and the time of heating. With the exception of H_2O and O_2, all other components of the mass

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An Investigation of the Thermal Dehydration of Crystalline and Amorphous Silica by the Method of Mass-spectrum Analysis

spectrum were caused by secondary factors. The latter are not characteristic of the structural change in the silica gel surface. The author did not determine any noticeable removal of molecular hydrogen. A new result was obtained by the removal of large quantities of molecular oxygen during the dehydration of crystalline quartz and two varieties of silica gel. Curves of the temperature dependence of this phenomenon are then given and discussed. There is no direct connection between the specific quantity of water contained in the structure and the amount of oxygen removed within the temperature range of from 700 to 1000°. Further, the author discusses the anomalous behavior of silica gel K-2 with respect to the removal of O_2. Conspicuously the most important feature of the mass-spectroscopic investigation of the thermal dehydration of silica gel is the removal of "structural" oxygen which attains maximum intensity within the range of from 900 to 950°. The lower temperature range of this process has not yet been ascertained with satisfactory accuracy. Finally, the experimental difficulties are indicated which are

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An Investigation of the Thermal Dehydration of Crystalline and Amorphous Silica by the Method of Mass-spectrum Analysis

due to insufficiently purified samples. This investigation was made in cooperation with the Laboratoriya poverkhnostnykh yavleniy Fizicheskogo fakulteta MGU (Laboratory of Surface Phenomena of Moscow State University, Department of Physics). The author thanks A. S. Predvoditelev, Corresponding Member, AS USSR, for his interest displayed in the study under investigation. There are 1 figure and 8 references, 3 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University imeni M. V. Lomonosov)

PRESENTED: December 24, 1958, by M. M. Dubinin, Academician

SUBMITTED: December 17, 1958

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A. V.

Mass-spectrometric investigation of the thermal dehydration of crystalline and amorphous silica. Vest. Mosk un. Ser. 3:Fiz.,astron 15 no.1:11-22 '60. (MIRA 13:10)

1. Kafedra molekulyarnoy fiziki fizicheskogo fakul'teta Moskovskogo gosudarstvennogo universiteta.
(Silica) (Mass spectrometry)

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S/194/62/000/004/068/105
D295/D308

AUTHORS: Bondarenko, A. V. and Popov, S. Ya.

TITLE: Cathode polarization in the electrocrystallization of metals under the action of sonic and ultrasonic oscillations

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 4, 1962, abstract 4-5-39e (V sb. Primeneniye ul'traakust. k issled. veshchestva. no. 14, M., 1961, 87-94)

TEXT: Cathode polarization during electrical deposition of copper, silver and zinc under the action of sonic and ultrasonic oscillations is investigated. Ultrasonic frequencies of 1250 kc/s were radiated from a barium-titanate ceramic transducer; sonic oscillations were generated by an electromagnetic vibrator fed from a.c. mains of industrial frequency. The ultrasonic intensity was determined by a thermistor measuring instrument. The comparison of the intensity of sonic oscillations was carried out on the basis of the value of

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Cathode polarization in ... S/194/62/000/004/068/105
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the current passing through the vibrator. 12 references. [Abstracter's note: Complete translation.]

Card 2/2

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S/194/62/000/004/067/105
D295/D308

24,1800

AUTHORS: Bondarenko, A. V. and Popov, S. Ya.

TITLE: Potential of an electrode without current by the action of ultrasonic and sonic oscillations

PERIODICAL: Referativnyy zhurnal, Avtomatika i radioelektronika, no. 4, 1962, abstract 4-5-39ch (V sb. Primeneniye ul'traakust. k issled. veshchestva. no. 14, M., 1961, 95-99)

B

TEXT: The influence of sound of 100 c/s and ultrasound of 1950 kc/s on the non-equilibrium potential of an electrode without current is investigated. Sound oscillations were communicated to the electrode from an electromagnetic vibrator, the electrode being attached to the armature of the vibrator by means of a rod. 5 references. /Abstracter's note: Complete translation./

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S/170/61/004/008/005/016
B116/B212

26.2262

AUTHORS: Bondarenko, A. V., Voznesenskiy, Yu. A., Minashin, M. Ye., Sidorova, I. I., Sharapov, V. N.

TITLE: Investigation of the automatic control system for the power level of a power reactor

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 8, 1961, 54-62

TEXT: The present paper deals with the calculation of the control system of a power reactor. A concrete example is given for the investigation of the transient processes for one of the variants of a projected reactor having an automatic power control system. A number of questions are discussed which are connected with the automatic reactor during non-steady operation. The variant mentioned is shown in Fig. 1. The control object is built similarly to that of the first atomic power plant in the USSR, namely, a heterogeneous uranium-graphite boiling reactor. This reactor has an effective neutron life of $l = 4 \cdot 10^{-4}$ sec and a negative temperature effect. Fig. 2 shows the cross section of a fuel element in the graphite

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Investigation of the automatic ...

block of the core. Three groups of equations are set up: For the change of neutron density in the reactor in time:

$$\frac{dn}{d\tau} = \frac{k_{эфф}(1-\beta)-1}{l} n + \sum_{i=1}^{6} \lambda_i c_i, \qquad (1)$$

$$\frac{dc_i}{d\tau} = -\lambda_i c_i + \frac{k_{эфф}\beta_i}{l} n,$$

$$\beta = \sum_{i=1}^{6} \beta_i, \; i = 1, 2, \ldots, 6, \qquad (2\text{-}7),$$

where τ denotes the time, n the neutron density, $k_{эфф} = k_{eff}$, λ_i the decay constant of the fragments of the i-th group of delayed neutrons, l the effective relative yield of delayed neutrons of the i-th group (taking into account the production energy), c_i the effective life of neutrons in the

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reactor. The deviation $\Delta k = k_{eff} - 1$ is caused by an external perturbation ($\Delta k_{perturbation}$) and by a change in reactivity 1) due to the motion of the control rods (automatic controller): Δk_{AR}, 2) due to the insertion of emergency protection rods into the core: Δk_{ep}; and 3) due to the deviation of the uranium, moderator and coolant temperatures: Δk_t; Δk combines additively all of these. The second group of equations expresses the change in time of the determining parameters of the automatic control system. They read: $\frac{d\Delta\varphi_1}{d\tau} = k_1[n(\tau) - 1]$ (8)

$T_{MV} \frac{d\Delta u}{d\tau} + \Delta u = k_2(\Delta\varphi_1 - k_3\Delta\varphi_2)$ (9) $\frac{d\Delta\varphi_2}{d\tau} = x$ (10),

$T_{SW} \frac{dx}{d\tau} + x = k_4\Delta u$ (11), $\Delta k_{AR} = -k_5\Delta\varphi_2$ (12),

where $n(\tau)$ denotes the relative neutron density; φ_1 the angle of rotation,

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of the drive (of the intermediate switch mechanism); φ_2 the angle of rotation of the switch mechanism drive; u the potential at the output of the magnetic amplifier; T_{MV} the time constant of this amplifier; T_{SW} the time constant of the switch mechanism; k_1, k_2, k_3, k_4, k_5 denote the transmission coefficients of the control elements. The third group of equations makes it possible to determine the mean change of the uranium temperature ($\overline{\Delta t_u}$) in the reactor and also the change of k_{eff} when the uranium temperature changes by 1°C and by Δk_t, if the temperature coefficient of reactivity (ϱ_{temp}) is known. These equations read as follows:

$$\frac{d\Delta t_u^I}{d\tau} = -0{,}650\,\Delta t_u^I + 0{,}596\,\Delta t_l^I + 8{,}63\,[n(\tau) - 1]; \quad (13)$$

$$\frac{d\Delta t_u^{II}}{d\tau} = -0{,}654\,\Delta t_u^{II} + 0{,}600\,\Delta t_l^{II} + 16{,}2\,[n(\tau) - 1]; \quad (14)$$

$$\frac{d\Delta t_u^{III}}{d\tau} = -0{,}661\,\Delta t_u^{III} + 0{,}607\,\Delta t_l^{III} + 20{,}4\,[n(\tau) - 1]; \quad (15)$$

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$$\frac{d\Delta t_u^{IV}}{d\tau} = -1{,}52\,\Delta t_u^{IV} + 20{,}4\,[n(\tau) - 1]; \qquad (16)$$

$$\frac{d\Delta t_f^{I}}{d\tau} = 1{,}77\,\Delta t_u^{I} - 7{,}64\,\Delta t_f^{I}; \qquad (17)$$

$$\frac{d\Delta t_f^{II}}{d\tau} = 1{,}69\,\Delta t_u^{II} - 4{,}99\,\Delta t_f^{II} + 3{,}04\,\Delta t_f^{I}; \qquad (18)$$

$$\frac{d\Delta t_f^{III}}{d\tau} = 1{,}48\,\Delta t_u^{III} - 5{,}67\,\Delta t_f^{III} + 3{,}33\,\Delta t_f^{II} - 0{,}015\,\Delta t_f^{III}\,\Delta t_u^{III}. \qquad (19),$$

where Δt_u denotes the deviation of the mean uranium temperature in the cross section of the core in question from a nominal value; Δt_f the deviation of the mean coolant temperature in a certain section (the active zone is divided into several sections with respect to height: I, II, III, IV). It is assumed that the heat removal is concentrated in the layer having radius r_3, and that the fuel mass will produce an additional thermal resistance. Eqs. (1) - (19) have been investigated with the help of a re-

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Investigation of the automatic ...

actor simulator considering 6 groups of delayed neutrons and with three simulating devices of type MH-7 (MN-7) for work control of reactors. The set of equations is schematically shown in Fig. 3. The following results have been obtained by a study of the automatic controller and reactor for non-steady operation: 1) Representation in one-group approximation results in an excessively high maximum reactivity jump permissible; therefore, 6 groups have been taken. 2) For a discontinuously changing reactivity, the increase of the amplification factor of the automatic controller will first decrease the power excess but will also increase the control time. Increasing the amplification factor by a factor of three will keep the system stable. 3) When the temperature effect ($\varrho_t = 0$) was not taken into account, one obtains $\Delta k_{perm} = 0.000472$ and a linear dependence of the permissible reactivity jump of ϱ_{temp}: $\delta \Delta k_{perm}/\delta \varrho_{temp} = 1.45$. 4) The maximum permissible amplitudes of reactivity pulsation in the range of 0.05 - 0.3 cps, which can be applied to the automatic controller, are given as: $\Delta k = 0.0002$ at $\varrho_t = 0$ and $\Delta k = 0.000325$ at $\varrho_t = -0.67 \cdot 10^{-4}$. Therefore, the temperature effect has to be determined accurately.

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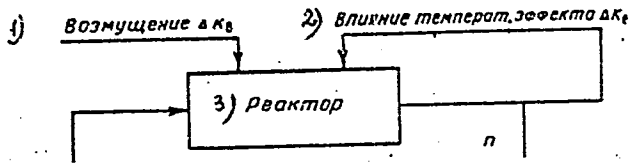
Investigation of the automatic ...

5) Even at resonance frequencies the automatic controller is able to take the pulsation of the coolant amount, and the amplitudes of the corresponding stabilized power fluctuations will be smaller than the permissible maximum. A. K. Krasin, Academician of the AS BSSR, is thanked for interest in this work. There are 5 figures and 2 Soviet-bloc references.

SUBMITTED: April 8, 1961

Fig. 1: Block diagram of the chief components of the automatic control system.

Legend: 1) perturbation; 2) influence of the temperature effect; 3) reactor; 4) control rods; 5) neutron detector; 6) power transmitter; 7) signal amplifier; 8) intermediate switch mechanism; 9) comparator; 10) drive; 11) magnetic amplifier; 12) switch mechanism.



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S/137/62/000/012/018/085
A006/A101

AUTHOR: Bondarenko, A. V.

TITLE: On the problem of the mechanism of ultrasonic effect upon the electrocrystallization of metal

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 2, abstract 12I15 ("Tr. Novocherk. politekhn. in-ta", 1962, v. 133, 59 - 77)

TEXT: To reveal factors which determine the stirring effect of ultrasonic waves, experiments were carried out with the use of half-wave flutters arising during metal deposition, in a standing ultrasonic field. The experiments were made in an ultrasonic field of 1,250 kilocycles frequency and 0.5 - 8 watt/cm^2 intensity. The standing field was due to the presence of a reflecting surface established in the electrolyzer perpendicularly to the propagation of ultrasonic waves. The following reflecting surfaces were tested: the free surface of the electrolyte; surfaces of glass, metal, chlorvinyl, rubber, and cork reflectors. It was established that in a standing ultrasonic field metal deposition proceeds both in the nodes and antinodes of displacements depending on the electrolyte composition and current density. The basic factor accelerating the process of

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On the problem of the...

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A006/A101

electrocrystallization, may be microcurrents arising in the electrolyte, in the ultrasonic field, and on the cathode surface. Some effect may also be exerted by stationary currents of the "sonic wind" type. There are 21 references.

O. Gol'der

[Abstracter's note: Complete translation]

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, A.V.; FARBEROV, M.I.; KARAKULEVA, G.I.; KOMOLOVA, G.A.; TIKHVINSKAYA, M.Yu.; Prinimal uchastiye PAVLOV, S.Yu., student

Synthesis of di-tert-butylbenzoic acid. Khim. i khim. tekh. 1:91-99 '62. (MIRA 17:2)

1. Yaroslavskiy tekhnologicheskiy institut i Nauchno-issledovatel'skiy institut monomerov dlya sinteticheskogo kauchuka.

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L 41161-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5007156 S/0286/65/000/003/0024/0024

AUTHOR: Farberov, M. I.; Bondarenko, A. V.; Komolova, G. A.

TITLE: A method for producing beta-vinylnaphthalene. [1] Class 12, No. 167864

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 3, 1965, 24

TOPIC TAGS: beta-vinylnaphthalene

ABSTRACT: This Author's Certificate introduces a method for producing β-vinylnaphthalene. In order to increase the purity and yield of the product, oxygen or air is used for oxidizing β-ethylnaphthalene in the liquid phase. The oxidation is carried out in the presence of salts of variable valence metals, producing a mixture of methylnaphthyl ketone and methylnaphthyl carbinol. The methylnaphthyl carbinol is reduced from this mixture and dehydrated.

ASSOCIATION: none

SUBMITTED: 14Jul62 ENCL: 00 SUB CODE: GC

NO REF SOV: 000 OTHER: 000

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

L 16990-66 EWT(1) AT
ACC NR: AP5022803 SOURCE CODE: UR/0141/65/008/004/0784/0793

AUTHOR: Bashirova, R. M.; Bondarenko, A. V.

ORG: Moscow State University (Moskovskiy gosudarstvennyy universitet)

TITLE: Investigation of the energy spectrum of positive ions which arrive at the cathode in an anomalous glow discharge

SOURCE: IVUZ. Radiofizika, v. 8, no. 4, 1965, 784-793

TOPIC TAGS: glow discharge, positive ion

ABSTRACT: The distribution of energies of the ions bombarding the cathode in an anomalous glow discharge was experimentally investigated. The method of cylindrical capacitor advanced by A. Hughes and V. Rojansky (Phys. Rev., 34, 284, 1929) was used. Glass discharge tubes 30—40-mm diameter and 20—25-mm long were used. The discharge was conducted in a gas flow. It was found that the energy distribution strongly depends on the conditions of formation of the canal beam; the distributions were entirely different in two cathodes whose diaphragm arrangements were different. The positive-ion current in the cathode region could not be

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determined from a common I-V characteristic for various discharge conditions; the characteristic segments of the distribution curves diverged from the common I-V curve in different ways. On the strength of the experimental results, it is assumed that the redistribution of ion energy along the way toward the cathode and in the transcathode space is largely due to a charge reversal whose efficiency within the discharge space is lower than that outside of this space. Orig. art. has: 4 figures.

SUB CODE: 20 / SUBM DATE: 02Jul64 / ORIG REF: 008 / OTH REF: 004

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APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

PILIPENKO, I.V.; BONDARENKO, A.Ya.

Experience in using coal-mazout for firing steam locomotives. Zhel.dor.transp. 41 no.6:70-72 Je '59. (MIRA 12:9)

1. Mashinist-instruktor po teplotekhnike parovoznogo depo Pomoshnaya Odesskoy dorogi (for Pilipenko). 2. Nachal'nik parovoznogo depo Pomoshnaya Odesskoy dorogi (for Bondarenko).
(Locomotives--Fuel consumption)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

POCHEPA, Aleksandr Mikhaylovich; RASHKOVSKIY, Mikhail Yefimovich; BONDARENKO, Anatoliy Yevgen'yevich; RUBIN, M., red.; MOLCHANOVA, T., tekhn. red.

[Use and repair of television receivers] Ekspluatatsiia i remont televizorov. 2., izd. Odessa, Odesskoe knizhnoe izd-vo, 1961. 145 p. (MIRA 14:10)

(Television—Receivers and reception)

APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6"

"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

POCHEPA, Aleksandr Mikhaylovich; RASHKOVSKIY, Mikhail Yefimovich; BONDARENKO, Anatoliy Yevgen'yevich; RUBIN, M., red.; MOLCHANOVA, T., tekhn. red.

[Operation and repair of television receivers] Ekspluatatsiia i remont televizorov. Odessa, Odesskoe knizhnoe izd-vo, 1963. 221 p. (MIRA 17:2)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

GRIGOR'YEVA, A.V. (Orenburg, Sovetskaya, ul., d.2); BONDARENKO, A.Ya.

X-ray diagnosis of occupational diseases of the osteoarticular apparatus. Ortop. travm. protez. 24 no.7:66-69 Jl'63 (MIRA 17:2)

1. Iz kafedry rentgenologii s meditsinskoy radiologiyey (zav.- prof. A.V.Grigor'yeva) Orenburgskogo meditsinskogo instituta.

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L 24134-65
ACCESSION NR: AP5002979 S/0018/65/000/001/0092/0093

AUTHOR: Bondarenko, B. (Senior lieutenant)

TITLE: How we train combat engineer divers

SOURCE: Voyennyy vestnik, no. 1, 1965, 92-93

TOPIC TAGS: diver, personnel, training, training gear

ABSTRACT: Combat engineer divers are trained in diving beneath ice. The personnel is first throughly familiarized with the equipment and procedures. For actual training the equipment is laid out as shown in Fig. 1 on the Enclosure. After checking the weather (diving is prohibited in temperatures < -15C) a 2 x 2-m hole is cut in the ice. Pontoon flooring sections are established around the hole, and a stove in the tent provides warmth for the divers when dressing. Hot water is used for heating the hose joints and warming the diving suit. In temperatures below -5C all rubber articles are kept in a sheltered place. To increase visibility for the divers, the snow is removed from the ice and 1 x 0.5-m windows are cut in the ice. Immediately upon leaving the dressing tent the diver enters the water. The pressure gauges are watched to detect icing in the hose. If such icing is detected, the diver is notified and immediately raised. Communication

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ACCESSION NR: AP5002979

by telephone is maintained at all times. A complete critique is held after each diving session. Orig. art. has: 1 figure.

ASSOCIATION: none

SUBMITTED: 00 ENCL: 01 SUB CODE: MS

NO REF SOV: 000 OTHER: 000

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ACCESSION NR: AP5002979

ENCLOSURE: 01

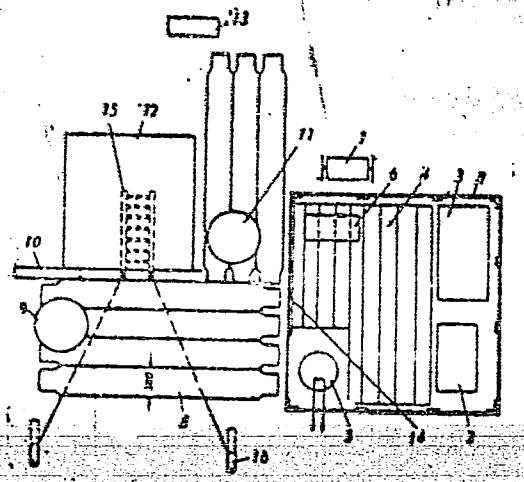

Fig. 1. Layout of area for training divers:
1 - dressing tent; 2,3 - chests with equipment and instruments; 4 - board flooring; 5 - heating stove; 6 - telephone; 7 - diving pump; 8 - pontoon section flooring; 9 - signal cable; 10 - foundation beam; 11 - diving hose; 12 - ice hole; 13 - window in the ice; 14 - door; 15 - diving ladder; 16 - pegs frozen in the ice

Card 3/3

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C BONDARENKO, B. A.

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Riboflavin elimination in the urine in some diseases of internal organs. B. A. Bondarenko. *Terapevt. Arkhiv* 20, No. 2, 73-83(1948).—Various forms of pneumonia, pleurisy, epithelial hepatitis, hypertony (cerebral or cardiac types), malignant tumors, septic endocarditis, and acute dysentery cause low levels of urinary riboflavin, indicating a rapid onset of hypovitaminosis, especially in cases in which satn. with the vitamin in previous life was never attained on the usual diet. The drop of the excretion is particularly well shown in involvements of the liver. The low levels in cancerous cases indicate usually high consumption by the tumorous tissues. G. M. K.

Functional Therapeutic Clinic, Naval Med. Acad., Leningrad

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ACCESSION NR: AT5011604 UR/0000/64/000/000/0239/0242

AUTHOR: Kleyman, Ya. M.; Nadel', A.A.; Bondarenko, B.A.

TITLE: Sensors for remote measurements of electrical parameters

SOURCE: Vsesoyuznoye soveshchaniye po magnitnym elementam avtomatiki, telemekhaniki, izmeritel'noy i vychislitel'noy tekhniki. Lvov, 1962. Magnitnyye elementy avtomatiki, telemekhaniki, izmeritel'noy i vychislitel'noy tekhniki (Magnetic elements of automatic control, remote control, measurement and computer engineering); trudy soveshchaniya. Kiev, Naukova dumka, 1964, 239-242

TOPIC TAGS: remote electrical measurement, electrical sensor, current measurement, voltage measurement, frequency measurement, remote control

ABSTRACT: Prototypes and experimental versions of sensors for remote measurements of electrical parameters are being developed at the SPKB "YuZhMONTAZhAVTOMATIKA" trust. The prototypes of sensors for remote measurements of the 50 cps AC [illegible] and the resistance (with respect to the ground) of the three-phase insulated 50 [illegible] are already being tested while the design of the sensor for the active current [illegible] symmetric three-phase 50 cps network is just being completed. The [illegible]

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these instruments and presents tabulated laboratory test data concerning the previously completed units for remote measurements of both AC and DC current and AC and DC voltages. "The work was participated in by a group of coworkers of the SPAB including Ya. M. Kleynman, A. A. Nadel', B.A. Bonderenko, V.V. Shashary, Ye. Ya. [illegible] V.N. Chernyavskiy, L.I. Volchenko, V.I. Barkov and L.V. Fayly[illegible] [illegible] V.I. [illegible] and Ye. I. Andrianov, who are now associated with other [illegible] along with A. K. Nesteruk, worker at the SPKB." Orig. art. has [illegible]

ASSOCIATION: none

SUBMITTED: 29Sep64 ENCL: 00 SUB CODE: EE, IE

NO REF SOV: 000 OTHER: 000

Card 2/2

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BONDARENKO, B.A., dotsent; GLUZBARG, B.Ye.

Timely diagnosis of lung cancer. Sov.med. 24 no.1:42-48 Ja '60.
(MIRA 13:5)

1. Iz kliniki fakul'tetskoy terapii No.2 (nachalnik - prof. A.A. Nechayev) Voyenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova i klinicheskoy bol'nitsy imeni Chudnovskogo (glavnyy vrach A.N. Shakunov).

(LUNG NEOPLASMS diagnosis)

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"APPROVED FOR RELEASE: 06/09/2000 CIA-RDP86-00513R000206220003-6

BONDARENKO, B.A., kand.med.nauk; MAKSIMOV, V.A. (Leningrad)

Lipodystrophy cases in disorders of the hypothalamus. Klin.med. 38 no.9:125-128 S '60. (MIRA 13:11)

1. Iz kliniki fakul'tetskoy terapii Voyenno-meditsinskoy ordena Lenina akdemii imeni S.M. Kirova (nach. - prof. A.A. Nechayev) na baze Basseynovoy bol'nitsy imeni Chudnovskogo (glavnyy vrach A.N. Shikunov).
(HYPOTHALAMUS--DISEASES) (METABOLISM, DISORDERS OF)

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